

Marine Water Pollution: Shellfish Waters

Background

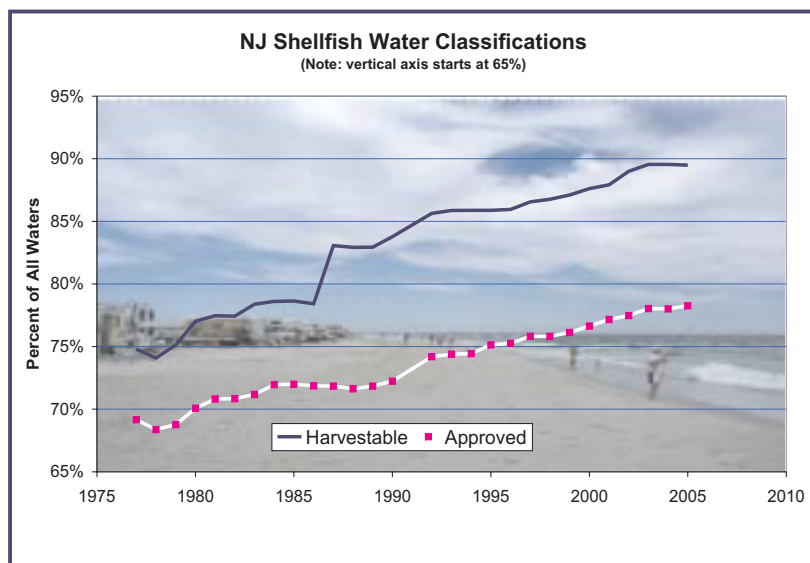
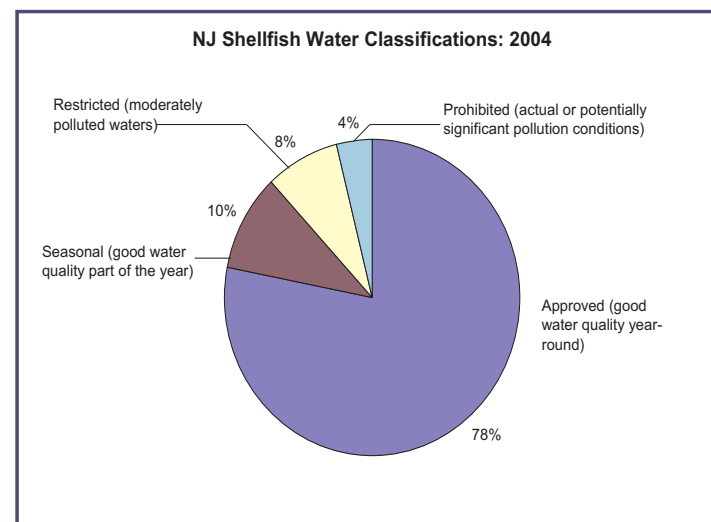
Each year New Jersey updates its classification of shellfish-growing waters as required under the National Shellfish Sanitation Program, which was established in 1929. These classifications provide an ongoing assessment of the condition of the state's coastal waters and impacts of point and nonpoint sources of human waste on the state's coastal waters from sources such as wastewater discharges, marinas, boating activity, urban runoff and agricultural runoff. To perform this classification, the DEP's Bureau of Marine Water Monitoring collects 15,000 samples per year from all estuarine and state coastal waters from Raritan Bay to Delaware Bay.

Shellfish (in this case, specifically bivalve molluscs such as clams, scallops and oysters) are filter feeders, meaning they pump water through their gills for both respiration and feeding. As they pump this water, the gills filter out particulates, removing suspended material from the water. Because shellfish filter water so effectively, they tend to accumulate whatever pollutants are in the water. If the waters are polluted, this can contaminate the shellfish, resulting in the closing of an area to shellfishing. Most frequently, this is due to bacterial contamination from a multitude of possible sources. These

sources include wastewater discharges, marinas and boating activity, and nonpoint sources such as stormwater discharges and runoff from agricultural lands.

New Jersey uses four basic classifications for shellfish waters. Each classification reflects a different degree of water-quality condition — from highest to

lowest water quality, the classifications are: approved, seasonal, restricted, and prohibited. Where National Shellfish Sanitation Program guidelines are met, the water quality allows the shellfish to go from the water directly to market.



Trends

According to the shellfish water classifications, as seen in the chart below, New Jersey's water quality has continually improved over time. The chart shows trends for both harvestable waters (all classifications other than prohibited) and fully approved¹ waters. In 1998, DEP established a target of having 90 percent of New Jersey's classified waters safe to harvest shellfish by 2005. The state reached this target in 2003. Much of this improvement is the result of \$5 billion spent since 1972 to improve sewage treatment.

Outlook and Implications

While 90 percent of the state's waters are now harvestable, about 12 percent of those harvestable waters have restrictions¹ due to moderate pollution conditions. Most of the water-quality impacts responsible for these harvest restrictions are related to nonpoint sources of pollution. The DEP is working in a number of areas to identify and to address these nonpoint sources. Actions include implementation of new stormwater rules, which² will reduce pollution from stormwater runoff, replenish vital groundwater supplies and minimize the adverse effects of new development. In addition, nearly 180 pumpout stations that remove sewage from recreational boats now are operating in New Jersey coastal waters. These boats have been funded with the help of the Clean Vessel Act program.³ The DEP also is implementing new methods of locating sources of microbial contamination, and has successfully identified numerous sources, resulting in the upgrade of shellfish waters in 2004.

More Information

Additional information about shellfish water classifications is available by contacting DEP's Bureau of Marine Water Monitoring at (609) 748-2000 or by visiting the Bureau's Web site at www.nj.gov/dep/bmw.

References

¹ Harvesting allowed only at certain times of the year when pollution conditions are low (Seasonal Classification) or harvesting is only allowed under special permits requiring further purification of the shellfish prior to consumption (Restricted Classification).

² Two sets of new stormwater rules were signed by DEP Commissioner Campbell on January 6, 2004 adopted in February 2004. The first set of rules is the Phase II New Jersey Pollutant Discharge Elimination System Stormwater Regulation Program Rules (N.J.A.C. 7:14A). These Rules are intended to address and reduce pollutants associated with existing stormwater runoff. The second set of regulations is known as the Stormwater Management Rules (N.J.A.C. 7:8). These Rules set forth the required components of regional and municipal stormwater management plans, and establish the stormwater management design and performance standards for new (proposed) development.

³ See www.state.nj.us/dep/fgw/artcva.htm